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Consumer Issues in Electronic Funds Transfer Systems

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The views presented in this paper are those of the authors and do not necessarily reflect the views or positions of the Department of C.C.A.

Introduction

An electronic funds transfer system (EFTS) has been defined as a computerized system which processes financial transactions, or information about financial transactions, or which affects an exchange of value between two parties.[1] The first EFTS in Canada[2] was a system of automated teller machines (ATMs) implemented in 1967 by the Canadian Imperial Bank of Commerce. Those ATMs had only cash dispensing capabilities, but in 1972 the Royal Bank introduced ATMs which provided full teller services. In 1974 the Bank of Montréal went one step further by introducing "Instabank", ATMs providing full teller services as well as the capacity to accept utility bill payments. Other banks and near banks now offer ATM services as well.

The federal government has been involved in the EFTS debate[3] since the Ministers of Finance and Communications jointly published the document entitled Towards an Electronic Payments System (known as the "Blue Book") in 1975. The Blue Book announced the creation of the Interdepartmental Steering Committee on the Electronic Payments System. The Steering Commitee commissioned a study by Stanley Goldstein, of the Department of Justice, entitled Changing Times: Banking in the Electronic Age, which was published in 1979. A report by John Lambie, of CCAC, on EFTS and competition policy, entitled Electronic Funds Transfer Systems in Canada: Emerging Issues and Recommendations, was also published in 1979. In 1978 the Ontario government released a report entitled The Challenge of EFT: Policy and Legislative Responses to Electronic Funds Transfer, by Richard McLaren of the University of Western Ontario.

The Federal/Provincial Task Force on Consumer Credit began considering EFTS in December, 1979. At a meeting in March, 1980, Thomas Gussman presented a paper[4] in which he gave the following synopsis of the basic consumer issues in EFTS:

1. Protection of personal privacy.

2. Protection against unauthorized or fraudulent use of accounts.

3. The desire for features similar to the stop payment rights of a paper based system.

4. Requirements that institutions owning or operating EFT devices provide machine printed receipts for EFT transactions, and periodic statements summarizing transactions.

5. Adequate disclosure statements from issuers of EFT access cards to users.

6. Error resolution.

After the presentation of a paper on chargeback rights (the EFTS equivalent of stop payment rights) at the October, 1980 meeting, the Task Force recommended that absolute chargeback rights not be legislated. At the Toronto meeting of the Task Force, in July, 1981, Stanley Goldstein gave a brief presentation of his report on the legal aspects of EFTS, and the members discussed a paper on the privacy of financial information, written by Mary Koyl of the B.C. Ministry of Consumer and Corporate Affairs. The Task Force also discussed the disclosure issue, and concluded that consumers will require full disclosure in the EFTS context.

CCAC has sponsored several research projects on EFTS. Some were single client studies, and others were sponsored in conjunction with other government agencies or corporations. The single client studies included one by Richard Larratt and Associates Ltd., which speculated on consumer policy in an electronic environment, and one by Socioscope Inc., which forecast the social impact of EFTS in Canada. The most comprehensive single client study which CCAC has sponsored was prepared by Ralph McCormack and outlined a future scenario for EFT in Canada and its implications regarding departmental objectives. The multi-sponsor studies included the following: a report by the Battelle Memorial Institute on the future of microprocessor memory cards and the effect they will have on the payments system; a report by Payment Systems Inc. (PSI) on the demographic characteristics of likely EFTS users in Canada; a report by Electronic Banking Inc. (EBI) on the potential for telephone bill payment services in Canada; and a report by EBI on the future of the cheque and its electronic alternatives in Canada. CCAC has also retained memberships in the Payment Systems Research Group and the Home Banking Society, which both undertake research in the EFTS area.

Although consumer EFT currently in operation in Canada does not extend beyond the ATM, other EFT systems such as telephone bill payment (TBP), video banking, and point of sale (POS) terminals, may appear in the future. On the other hand, full-scale automated clearing houses (ACHs) are less likely to ever appear in this country. The consumer issues outlined by Gussman are concerns with all of these prospective EFT systems, but each system has its own nuances; hence, in the remainder of this report each system will be considered individually. It should be made clear that this report is not intended to

serve as a general survey and review of the literature. Rather, it relies almost exclusively on studies prepared with at least some involvement on the part of CCAC.

Automated Teller Machines

ATMs are electronic devices which can be used to perform most of the banking transactions normally performed by tellers. They can be used to dispense cash, accept deposits, transfer funds between accounts, and even pay bills. The advantages of ATMs are that they are available during non-banking hours and during banking hours when line-ups are long, and that they make the proximity of the brick and mortar branch less important.

ATM usage, although not widespread, is growing quickly. A survey conducted by EBI in December, 1980[5] indicated that only 5.6 percent of consumers used ATMs, whereas a study conducted a year later[6] indicated that 17.6 percent of consumers had at some time used ATMs. The difference between the findings of the two surveys is too great to be attributed to differences in survey methodology; it can be taken as an indication that the use of ATMs is rising. More striking is the fact that by the end of 1982 there were approximately 1,300 ATMs in Canada, with the number having increased by 75% in 1982 alone. Growth to a level of 5,000-7,000 ATMs is expected by 1985.[7]

One of the reasons for the success of ATMs must be that they do not pose any insuperable security problems. This is not to say that consumers have no concerns about ATMs. In fact, consumer research by EBI[8] has indicated that users and potential users of ATMs are more apprehensive about the privacy, confidentiality, and security of ATMs than non-users. It appears, however, that the security precautions taken with ATMs have been sufficient to mitigate consumers' fears.

To activate an ATM a customer must insert an encoded plastic card into the terminal and enter a personal identification number (PIN). Even if the card is lost or stolen the possibility of illegal access to the customer's account is slight, because an unauthorized user would require the customer's PIN to activate the ATM. In the unlikely event that a thief did know the customer's PIN it would still be unlikely that much would be stolen. There is a limit (usually up to $300) on the amount that can be withdrawn from an ATM account in a single day. Furthermore, customers' liability for theft on ATM accounts is limited provided that they notify their banks of missing cards within twenty-four hours. As soon as the bank is notified

of the missing card it can prevent further access to the account.

Despite precautions of this type, schemes to illegitimately acquire funds through the use of ATMs have emerged. An interesting example of such a scheme was one perpetrated in the state of New York at certain locations which have two ATMs and a customer service telephone. It involved a person who claimed to be a customer service representative of the bank approaching a customer initiating a transaction at one of the ATMs and then convincing the customer to utilize the other ATM after having activated the first one. The customer service telephone was usually used to assist in persuading the customer. The person perpetrating the scheme, having memorized the customer's personal identification number, was then able to withdraw funds using the ATM activated by the customer.

An issue that appears to be emerging with ATMs is that of cross-subsidization. In the financial industry this occurs where certain service charges are under-priced and other service charges are over-priced. In effect, it causes a redistribution from those who use the over-priced services to those who use the under-priced services. Such a pricing strategy would benefit financial institutions because it would encourage the use of ATMs, which become more cost effective as usage increases. In fact, most EFT systems become more cost effective with high volumes of usage, so the issue of cross-subsidization is expected to arise with other EFT systems as well.

There are no data to substantiate the claim that ATM services are currently being cross-subsidized, but it is significant to note that there are no service charges for some banking transactions carried out on ATMs. At PSI's Canadian Symposium in May, 1982 Thomas Stanley[9] stated that, in his opinion, financial institutions had not taken enough advantage of the potential benefits to them from such cross-subsidization. He recommended that financial institutions encourage the use of ATMs by discouraging the use of live tellers. This could be done by decreasing the availability of tellers (causing longer line-ups) and by increasing service charges on transactions carried out by tellers.

Telephone Bill Payment

As the full name implies, TBP is an EFTS in which the consumer makes bill payments through the use of a telephone. Payment orders may be given in a number of ways: to an operator, to a recording device, by voice data entry, or using the buttons on a touch-tone telephone. Regardless of

the manner in which instructions are given, payment is made through an electronic transfer of funds.

In the U.S., TBP has been in existence for a number of years and has become one of the fastest growing services within that country's financial service industry.[10] However, in Canada, TBP is still at the concept stage, and the prospects for its future development are not completely clear. A survey conducted in December, 1980 by EBI[11] indicated that 29.4 percent of Canadian consumers would definitely or probably use TBP if it were offered, and there was some indication that willingness to use it would increase with familiarity. EBI also conducted focus group interviews with potential corporate users of TBP, and found them, with a few exceptions, to be generally positive about it. Thus, the research by EBI suggests that TBP may be viable in Canada in terms of its consumer and corporate acceptance. On the other hand, the viability of TBP may actually decline in the future due to the emergence of more technologically sophisticated substitutes like video banking.

Financial institutions can implement a TBP service on either a shared or independent basis. A feasibility study conducted by the five major banks apparently indicated that it did offer some potential as a shared service. Despite this, no consensus among the major banks to proceed with a shared service exists.[12] It is possible that TBP will be introduced in Canada by an innovative financial institution implementing their own system. In any case, TBP could be introduced in Canada within the next few years.

The consumer issues in TBP are much the same as those in other EFT systems:

1. Since records will be kept of TBP transactions, the confidentiality of consumers' bill paying and purchasing habits will be a concern. It will be important for consumers to know what information will be recorded, how it will be stored, and how access to it may be gained.

   The mass media have given much attention to the potential threat to personal privacy and confidentiality posed by computerized information systems, such as EFTS. At PSI's Canadian Symposium in May, 1982 Candace Craddock[13] gave the following reasons why EFT is generally perceived to threaten personal privacy and confidentiality:

   1) It will create new financial records.

   2) It may increase the amount of information included in financial records.

   3) The information will be easier and less costly to access.

4) It could be used for surveillance.

5) It may increase the number of financial institutions with access to records.

Craddock then went on to criticize the belief that EFTS will pose a threat to personal privacy and confidentiality. In her opinion an increase in the amount of information will not substantially increase the threat to privacy if the existing standards of confidentiality are applied. She feels there is no reason to believe that these standards will not be applied. Although it will be technically easier and cheaper to access records, most service providers will use a number of methods to protect the confidentiality of their customers' records. These methods might include restricting access to data and equipment within the organization, developing keys and technical safeguards for software systems, using electronic audit trails, and encrypting data during transmission and storage. If such protective measures are used Craddock believes that EFTS will actually offer more privacy than paper-based systems.

2. TBP users will undoubtedly be given identification codes, but there will always be some possibility that the code will be discovered and used without authorization. Consumers will be concerned about their liability for such breaches of security.

It should be mentioned at this point that the incidence of computer crimes may also be vastly exaggerated. It is often contended that many computer crimes go undetected and/or unreported. One point often advanced as a reason for financial (and other) institutions being reluctant to report computer crimes is the possible damage done to an institution's image through such revelations. However, at the PSI Canadian Symposium in May, 1982 Ms. Craddock[15] pointed out that many references to computer crime in the media are drawn from studies by the Stanford Research Institute which include many cases that clearly do not involve criminal acts and many others that are totally unsubstantiated. She also scoffed at the aforementioned claim that only a small percentage of computer crimes are reported; in her opinion there is no convincing evidence or rationale to support such a claim. If Craddock is correct the security issue in EFTS may relate more to a popular misperception than to any substantial security risks.

3. TBP customers will probably receive monthly statements of all the transactions undertaken on their accounts, but such records are usually not acceptable as proof of payment.

4. There will inevitably be errors in a TBP system. Consumers will be concerned about the detection of such errors, and the means of resolving them.

   It is likely that many of the errors in a TBP system will be due to the users themselves. As customers become familiar with the operation of the system the number of errors will probably diminish. In a recent survey EBI[16] discovered that about 20 percent of TBP users in the U.S. have had errors in their transactions. However, these errors did not seem to affect the respondent's willingness to continue using TBP. Of those respondents who had used TBP through an operator, tape recorder, or touch-tone telephone, 96 percent intended to continue using it, and 94 percent rated their TBP experiences as being favourable.

5. There may be a cross-subsidization effect with TBP. EBI's research findings[17] suggest that corporate users will be reluctant to pay for TBP services. This could lead financial institutions to encourage corporate usage by subsidizing corporate service charges with higher consumer service charges. It is also possible that there may be cross-subsidization between those consumers who use TBP and those who use other financial services. Financial institutions could encourage usage of TBP by underpricing it and overpricing its alternatives.

Video Banking

Video banking is a form of home banking which utilizes a videotex system (TBP is another form of home banking). Videotex is the generic name for a two way communications system which links modified TV sets to computers and memory banks. In doing so, it can offer information retrieval, educational, messaging, computing, home shopping and telemonitoring services in addition to home banking. In fact, it is not felt that home banking could support a videotex system alone.[18] The home banking services which videotex has the potential to provide include bill payments, funds transfer between one's own accounts and account status information for deposits, installment loans, mortgages and credit cards.

Video banking has only, as yet, been offered on an experimental basis. Its future growth is very difficult to predict since it is dependent upon the development of the other services that videotex is capable of offering. It is not likely to appear commercially in the immediate future, but the long-run outlook for video banking is promising. In the summer of 1981 EBI assessed the opinions of a group of experts on the future of video banking; on the basis of this assessment, EBI expect that by 1990 between 5 and 20 percent of American homes, and between 10 and 30 percent of businesses, will use video banking[19]. A similar scenario has been predicted for Canada by Ralph McCormack.[20] McCormack also foresees the initial development of video banking to be highly competitive among the major banks. He sees co-operative services as most likely being used to provide a pilot system or a system supported by smaller institutions.[21]

In Canada, the federal government has played an important role in the development of a Canadian videotex system, known as Telidon. The Telidon system consists essentially of the following three components:

- data bases connected to a central computer
- a modified television set with a push-button or keyboard unit
- a transmission link, which could be telephone lines, cable, optical fibres, television broadcast, satellites, or laser.

Additional user equipment, such as that for information storage or line printing, can also be added. It is worth noting that one of Telidon's major strengths relative to other videotex systems is its superb graphics. This feature is, however, of limited value for video banking applications.

The video banking services which videotex has the potential to provide raise a number of consumer issues:

1. Video banking will allow comprehensive records of consumers' purchasing and borrowing habits to be kept. These records could be used to update credit ratings, to target advertising campaigns, to discriminate against consumers with poor purchasing records (for instance, those who frequently return products), and, undoubtedly, for many other purposes as well. It will be necessary to establish who will have access to these records, and what notification is to be given to individuals if their records have been examined. In this context the privacy

rights of minors are an issue. Will minors have privacy rights for transactions performed on their families' videotex systems?

2. Unauthorized transactions will occur in videotex systems. As noted previously, however, theft and fraud may not occur as commonly as originally feared. In fact a videotex system has the potential to provide a number of safety features, and crimes could occur very infrequently. Videotex transactions will only take place between authorized videotex users; an illegal transaction could, in most conceivable situations, be traced with ease. One problem that may arise is the difficulty of tracing unauthorized transactions by persons who have tapped into the system. Even if the system were tapped and unauthorized transactions were made without being detected, it would be unlikely that the "thief" could gain much. Typically, anything purchased with funds from a customer's account would automatically be delivered to the customer's address. And any funds transferred from the customer's account to a third party's could obviously be traced. Even more protection is provided by the fact that payments (transfers) can only be made to payees on a preauthorized list. The likelihood that unauthorized videotex transactions will involve theft or fraud is very small. It is more likely that young children may access their parent's accounts and perform transactions while playing. Obviously, the legal responsibilities and liabilities of users in such situations must be established.

3. In a videotex transaction consumers will not have any stop payment mechanism. Naturally, from the consumer's perspective it will be desirable to incorporate into the system some form of chargeback privilege, assuming that they do not have to bear any of the costs associated with doing so. If, as the Institute for the Future[22] suggests, videotex increases the incidence of impulse buying, consumers will find chargeback privileges all the more desirable.

   However, there is clearly more to consider on the issue of chargeback than whether or not consumers desire such a privilege. It should be emphasized that consumers presently do not have any legal right to stop payment. An absolute right to chargeback would permit consumers to renege on transactions at their whim, an arrangement which many would argue is far too open to abuse. In any case, the imposition of absolute chargeback rights for videotex transactions would in effect discriminate between EFT and non-EFT users. The ability to charge-

back might most appropriately be viewed as an "option" which consumers are best off being allowed to purchase or not as they see fit. As noted earlier in this report, the Federal/Provincial Task Force on Consumer Credit recommended against legislating absolute charge-back rights.

4. All videotex transactions will be recorded on magnetic tape, but computer generated statements are usually not accepted as proof of payment.

5. The pricing of video banking services may be an important, and complex, consumer issue because of the variety of pricing strategies that financial institutions could employ. There are two separate potential issues. The first involves financial institutions' pricing strategy when video banking is in its initial phase. A report prepared for the Home Banking Society recommends that U.S. financial institutions employ a premium pricing strategy when video banking is being introduced into the market.[23] By so doing, financial institutions could exploit market segments most insensitive to prices and recover some of their investment costs rapidly. From a consumer perspective, some may regard price discrimination of this type as being inequitable. On the other hand, it should be kept in mind that those market segments most insensitive to prices are likely to consist largely of consumers who are, at least, fairly affluent. In any case, the issue is hypothetical, as it is possible that premium pricing strategies may never be employed in Canada.

   The second potential pricing issue involves cross-subsidization. After video banking has been initially marketed and is in use by "early adopters" a marketing strategy could lead to lower prices to encourage further adoption and overcharging for alternative services. This has undesirable redistributional effects: the very last adopters of video banking, who would end up subsidizing the earlier adopters, will probably be from the lowest income groups.

6. It has been suggested that video banking may have adverse effects on competition in financial markets. A report by the Institute for the Future[24] has suggested that there may be large economies of scale in the provision of video banking services. These economies of scale could reduce the number of institutions in the financial services market and reduce competition in the long-run.

Automated Clearing Houses

An automated clearing house (ACH) system is a computerized process which enables financial institutions to clear paperless payment orders (such as direct deposit arrangements, preauthorized debits, and electronic funds transfers) electronically. There is already a significant interest in the use of paperless payment orders in Canada: in a recent survey EBI[25] found that 50.4 percent of the respondents used preauthorized payments, and 21.9 percent used direct deposit arrangements for their pay cheques. In addition, many of those who did not use preauthorized payments or direct deposit arrangements expressed interest in doing so.

Despite the popularity of paperless payment orders, it has been suggested that, because there are so few financial institutions, it may never be desirable to implement a full ACH system in Canada. Rather than clear the debits and credits electronically, it may be more efficient, given the relatively small number of financial institutions, to clear through exchanges of magnetic tapes on which institutions' debit and credit information has been recorded. The recently formed Canadian Payments Association (CPA) could play an important role with regard to the development of ACHs in Canada. This organization replaced the Canadian Bankers' Association as the body responsible for the clearing system.

If a full ACH system is implemented in Canada, the type of access accorded to near banks will have important ramifications for the consumer. If direct access is accorded only to the chartered banks, they will have an unfair competitive advantage over the near banks. This would reduce competition and result in consumers paying more for direct deposits, preauthorized payments, and electronic fund transfers than they should.

The policy of the federal government towards the development of ACHs may also have ramifications for the consumer. In the U.S. many ACHs are owned and operated by the federal government, but there appears to be little chance that this will happen in Canada. However, because there are economies of scale in ACHs, it is possible that the federal government could provide subsidies to financial institutions in the initial stage of development. Such subsidies could lead to increased concentration in the financial industry, and thus may not be in the best interests of the consumer.

Point of Sale Terminals

When implemented in their ultimate form, point of sale (POS) terminals will be located in retail stores to allow customers to make purchases through electronic funds transfer. POS terminals will also have the potential to perform services such as providing customers with access to immediate credit, and keeping records of stocks. A more limited POS system may simply provide cheque verification/ guarantee services. In a typical POS transaction[27] a store clerk will first insert the customer's encoded plastic card into the terminal and enter the customer's personal identification number, as well as the appropriate sales information; the terminal will then contact a switch, which will connect the customer's and store's bank accounts; the computer at the customer's bank will verify that there are sufficient funds in his or her account, and the transfer of funds will then be made, completing the transaction.

POS terminals will probably not appear on a widespread basis in the near future. The use of plastic cheques or debit cards, however, which are forerunners of a full POS system, will occur very soon. The plastic cheque is already at the experimental stage of development, and if the survey findings of EBI[23] are any indication almost 40 percent of consumers are potential users.

An informal association, the Payment Alternatives Communication Exchange (PACE), has recently been founded by a group of firms and other organizations in the retailing, banking, equipment and communications sectors. PACE is expected to aid in the development of a full EFT POS environment in Canada, including the promotion of appropriate standards.[28] The CPA may play a similar role.

POS terminals will increase the convenience and efficiency of shopping transactions, but they will pose some problems for the consumer:

1. A POS transfer of funds will be performed by a store clerk in the presence of the purchasing customer and perhaps several other customers in the vicinity. If there are insufficient funds in his or her account the customer will be in an obviously embarrassing position. It should be kept in mind, however, that essentially the same situation exists with cheques and credit cards.

2. As with other EFT systems there will always be some risk that accounts will be accessed by unauthorized persons. The legal liability of all parties in the event of an illegal transaction will be of great importance.

3. It is tautological that in a POS system consumers will not be able to stop payment. Clearly, many consumers would like to have some form of reversibility mechanism incorporated into the system, but the issue of absolute chargeback rights is problematic.

4. A POS system raises the issue of proof of payment. Both the customer and the store will receive printed statements of the POS transaction, but those statements would probably not serve as proof of payment under the Bills of Exchange Act.

5. It is possible that POS services will be cross-subsidized. Financial institutions might encourage usage of POS terminals by underpricing POS services and overpricing the alternatives, such as cheques and money orders.

6. The provision of POS switch services is also an issue. It is possible that switch services could become the responsibility of a large computer or telecommunications company. This may be undesirable because of the enormous economic and political power such companies have.

7. Finance companies may not be granted access to a POS system. Since it is anticipated that, in a full POS system, banks will offer credit on demand, refusing access to finance companies would reduce competition in credit markets.

Conclusion

This report has briefly outlined the history of EFTS in Canada, the prospects for its implementation, and some of the consumer issues expected to arise. The discussion has focussed on those EFT systems which are now or will soon be feasible. Where possible the report has attempted to draw upon the empirical research undertaken by CCAC to monitor the progress and impact of EFTS in Canada. Historical and institutional differences limit the extent to which developments in EFTS in Canada can be anticipated merely by observing developments in the U.S.

Any attempt to predict when the EFTS systems discussed in this report will appear for commercial use by consumers in Canada would be speculative. However, based on the research by EBI, PSI and McCormack, it seems likely that TBP may appear within a few years and that video banking will be phased in gradually over the 1980's and into the 1990's. With regard to the prospects for POS terminals in Canada, McCormack forecasts the implementation of authoriza-

tion and data capture terminals on a significant scale within the next few years. However, a full-scale, or ultimate, POS system is not foreseen on even a pilot basis until the late 1980's at the earliest. Both the Lambie and McCormack reports suggest that the structure of the Canadian banking industry is not conducive to the implementation of ACH's; it seems unlikely that these will be implemented in Canada in the near future, if at all. The table on the following page illustrates the McCormack report's overview of the future EFTS scenario.[29]

Some of the consumer issues in EFTS have already been studied in some detail, as evinced by the activities of the Task Force on Consumer Credit and the Interdepartmental Steering Committee on the Electronic Payments System. However, further research on these issues (proof of payment, stop payment rights, error resolution .... etc.) would be useful. Other consumer issues noted in this report do not appear to have been studied or considered in detail; research on these issues would be especialy useful.

	1983	'84	'85	'86	'87	'88	'89	'90
Chequing Services								
Post-dated cheques	-	--	-	-				
Pre-Authorized Cheques	--	--	-					
Direct Funds Transfer								
- Debit	+	++	++	++	+			
- Credit	+	++	++	++	+	+		
Cheque Truncation								
-Internal	+	+	++	++	+			
-Co-operative					*	+	++	
Self-Service Banking								
ATMS	++	++	+	+				
Special Purpose Terminals	+	+	++	++	++			
TBP		*	+	++	++	+	+	
Video Banking	*	*	*	*	+	+	+	+
Point of Sale								
Authorization Terminals	*	++	++	+	+			
Card Data Capture		*	+	++	++	+		
Full-Scale POS							*	*
Credit Card	+	S	S	-	-			
Debit Card	*	*	+	+	+			
Propriety Card	++	++	+	+	+			
Chip Card						*	*	*
Home Shopping	*	*	*	*	+	+	+	+

LEGEND:
- \- Declining Service
- \+ Growth
- * Pilot
- S Static

Footnotes

1. John Lambie, Electronic Funds Transfer Systems in Canada: Emerging Issues and Recommendations, Research Monograph Number 3, Bureau of Competition Policy, CCAC, 1979, p. 127.

2. This discussion of ATMs is based on Thomas K. Gussman, "Electronic Technology: Its Impact on the Consumer", CCAC, 1979, pp. 8-9.

3. The discussion of government involvement in EFTS is based on Thomas K. Gussman, "Consumer Issues to be Addressed in the Implementation of Electronic Funds Transfer Systems", prepared for the Task Force on Consumer Credit, 1980, pp. 2-4.

4. Ibid, pp. 7-8.

5. Electronic Banking Inc., The Future of the Cheque in Canada, Atlanta, 1982, p. 135.

6. Electronic Banking Inc., Telephone Bill Payment in Canada, Altanta, 1981, p. 29.

7. Ralph L. McCormack, Electronic Funds Transfer in Canada: A Future Scenario and its Implications, prepared for CCAC, 1983, pp. V-5, V-6.

8. Electronic Banking Inc., The Future of the Cheque in Canada, p. 142.

9. Thomas J. Stanley, "Payment Systems Perspectives - Consumer Views on Financial Services", in the proceedings of Payments Systems Inc., Canadian Symposium, May, 1982, pp. 21-22.

10. Ralph L. McCormack, Electronic Funds Transfer in Canada: A Future Scenario and its Implications, p. VII-4.

11. Electronic Banking Inc., Telephone Bill Payment in Canada, p. 91.

12. Ralph L. McCormack, Electronic Funds Transfer in Canada: A Future Scenario and its Implications, p.VII-7.

13. Candace Craddock, "How Banks Can Meet the Challenge of Privacy in EFTS", in the proceedings of Payment Systems Inc., Canadian Symposium, May, 1982, pp. 4-5.

14. Ibid, pp. 5-9.

15. Ibid, pp. 12-13.

16. Electronic Banking Inc., "Voice Data Entry - An Alternative Access Method", a report prepared for the Home Banking Society, 1982, pp. 63-64.

17. Ibid, pp. 39-42.

18. Electronic Banking Inc., "Marketing Strategies for Home Banking" prepared for the Home Banking Society, 1982, p. 45.

19. Electronic Banking Inc., "The Future of Home Banking - A Consensus of Experts" prepared for the Home Banking Society, 1982, p. 50.

20. Ralph L. McCormack, "Future Payment Systems Developments in Canada" in the proceedings of Payment Systems Inc., Canadian Symposium, May, 1982, p.7.

21. Ralph L. McCormack, Electronic Funds Transfer in Canada: A Future Scenario and its Implications, p. VIII-9.

22. Institute for the Future, Teletext and Videotex in the United States, California, 1982, pp. 12-16.

23. Electronic Banking Inc., "Marketing Strategies For Home Banking", in a report prepared for the Home Banking Society, 1982, pp. 64-69.

24. Institute for the Future, Teletext and Videotex in the United States.

25. Electronic Banking Inc., The Future of the Cheque, p. 223 and p. 268.

26. John Lambie, op. cit., p. 10.

27. Electronic Banking Inc., The Future of the Cheque, p. 181.

28. Ralph L. McCormack, Electronic Funds Transfer in Canada: A Future Scenario and its Implications, p. VI-8.

29. Ibid, p. IX-4.